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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/693,271	10/20/2000	Donald C. Mann	ULT-001-1	7503

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EXAMINER	
WALSH, DANIEL I	

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/693,271	MANN ET AL.	
	Examiner	Art Unit	
	Daniel I. Walsh	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6,10-04, 3-05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Receipt is acknowledged of the IDS received on 3-9-05, 10-12-04, and 6-7-04.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 13-15, 33-37, and 45-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 3 and 13-15 the Examiner notes that it is unclear how an arcuate track can be parallel. For purposes of examination the Examiner has interpreted that the tracks are aligned. Additionally, claims 13 and 15 appear duplicates.

Re claims 33-37, the Examiner notes that it is unclear how the data storage device can be circular (as per claim 33) but the claims 34-37 refer to it as circular. The Examiner has interpreted it as per the action below, to expedite Examination.

Re claims 45-46, the claims recite the limitation "the thin film layer of magnetic material" in line 1. There is insufficient antecedent basis for this limitation in the claim. For purposes of Examination, the Examiner has interpreted them as per below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 4, 10, 12, 28, 31, 32 and 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (US 4,745,267).

Re claim 1, Davis et al. teaches a data storage device with a rectangular shape adapted to interact with a data processing station when a card and processing station are moved relative to each other, comprising a substrate having a predetermined shape, and at least one layer of high density high coercivity magnetic material for storing magnetic signals along a path substantially parallel to at least one side of the generally rectangular card (FIG. 5, which teaches a credit card with high coercivity magnetic layer parallel to a side). Though silent to high density, the Examiner notes that a magnetic striped card (credit card) is interpreted as a high density storage medium. The Examiner notes that it is obvious to move relative to each other, such as a conventional swipe card reader, for convenience

Re claim 2, Davis et al. teaches the signals are in a track parallel to the side of the rectangular shape.

Re claim 4, the Examiner notes that the rectangular card (conventional shape) has longer and shorter sides, with the strip parallel to one of the sized sides.

Re claim 10, the limitations have been discussed above, re claim 4.

Re claim 12, the Examiner notes that as discussed above, and as conventional in the art, the credit card has a track parallel to the pair of long sides of the card.

Re claim 28, though silent to moving the card relative to the processing station, it would have been obvious to swipe (move the card) to effect reading, as is convenient and conventional in the art.

Re claim 31, the planar and rectangular shapes have been discussed in the card above, and are also conventional in the art.

Re claim 32, Davis et al. teaches the card is passed through a secure code reader 32 and also teaches that a merchant slides the card through a reader. This is interpreted as being transported past a processing station.

Re claims 45-46, as the claims do not define a positional relationship between the substrate and the processing station, the Examiner notes that it known that magnetic field orientations are present in magnetic media (discs, hard drives, etc) so that data can be stored and bits distinguished. Accordingly, based on the positional relationship between the card and substrate and processing station, the magnetic field orientation can be perpendicular or parallel

4. Claims 3, 5-9 and 11, 13-17, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al., as discussed above, in view of Liu et al. (US 2001/0052543).

The teachings of Davis et al. have been discussed above.

Re claims 3, 5-9, and 11, Davis et al. is silent to the magnetic signals being stored in an arcuate shaped track. Re claim 11, the Examiner notes that Davis is silent to the track being parallel to the shorter sides substantially parallel to one side of the rectangular shape

Liu teaches such limitations (FIG. 2D-2Q).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Liu.

One would have been motivated to do this in order to have increased data tracks, storage, based on system constraints, etc.

Re claim 5, the tracks are interpreted to extend between the sides, as shown in the figures described above.

Re claims 6-9, as the arcuate/circular tracks are enclosed on the 4 sides by the card, the tracks are interpreted as extending/located/centrally located between the longer and shorter sides of the rectangular shape.

Re claim 11,the Examiner notes that the tracks are interpreted to be substantially parallel to the shorter sides.

Re claims 13-15, the limitations have been discussed above, where the Examiner has interpreted the tracks as substantially parallel to the longer and shorter sides.

Re claims 16-17, circular tracks meeting the limitations have been discussed above.

Re claim 33, a generally circular data storage device has been discussed above.

Re claims 34, the circular data tracks are interpreted as fixedly mounted within the planar and rectangular substrate.

5. Claims 18 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al., as discussed above, in view of Chedister (US 6,310,471).

The teachings of Davis et al. have been discussed above.

Davis et al. is silent to a relatively hard, abradeable protective coating formed on the magnetic material layer.

Chedister teaches such limitations through stripe protection coating 128.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Chedister.

One would have been motivated to do this in order to have a means to protect the stripe from wear.

Though silent to the thickness of the coating being selected so as to have a thickness between that which would attenuate magnetic signals passing between the magnetic material and a transducer and a minimum thickness enabling the protect coating to be abraded by usage in an ambient natural atmosphere operating environment for removing therefrom a known quantity of the coating, the Examiner notes it would have been well within the skill in the art to provide for a protective coating of adequate thickness so as to protect the stripe (not wear off so quickly), and thus is interpreted to be obvious to one of ordinary skill in the art.

Re claim 22, the Examiner notes that though silent to the protective coating being cleanable, the Examiner notes that it is obvious that a card can be wiped, including the stripe, for removing particles, dirt, grime, etc., as conventional in the art.

Re claim 23, the Examiner notes that a card is interpreted to have two surfaces, and as the protective coating is applied to the stripe, it is interpreted as being applied on one of the surfaces.

Re claim 24, the limitations have been discussed above.

6. Claims 19, 26, 47, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al., as discussed above, in view of Bajorek (US 6,482,330).

The teachings of Davis et al. have been discussed above.

Davis et al. is silent to a thin film magnetic layer and to a bonded lubricant layer having a thickness less than the protective coating.

The Examiner notes that thin film layers are well known and conventional in the art, for increasing density, and size constraints. Nonetheless, the Examiner notes that Bajorek teaches a thin film layer (col 1, lines 25+). Bajorek teaches a lubricant can be applied to the protective overcoat (col 4, lines 52+). Though silent to the thickness of the lubricant, the Examiner notes it would have been obvious to be thinner than the protective layer as the lubricant is just employed to provide surface lubricant and as being able to be applied by wiping onto the protective layer, it is obvious that it would be very thin, and part of a finishing step. The selection of an optimum value/range is well within the ordinary skill in the art.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Bajorek.

One would have been motivated to do this to increase density, reduce thickness, etc.

Re claim 47, Bajorek teaches sputtering (abstract) for easily dispensing a thin layer with desirable/controllable properties, as is conventional in the art.

Re claim 49, Bajorek teaches an oxide for the magnetic material as is conventional with credit cards (ferrous oxide, col 1, lines 15+ for data storage ease)

7. Claim 20, 24, 27, and 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, as discussed above, in view of Wood et al. (US 5,041,922).

The teachings of Davis et al. have been discussed above.

Davis et al. is silent to a protective coating having at least one layer, which includes a magnetically permeable, magnetically saturable material.

Wood et al. teaches a magnetically permeable, saturable material (14), interpreted as a protecting layer.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Wood et al.

One would have been motivated to do this to effect quality of signals transferred.

Re claims 27 and 30, Davis et al. is silent to relative movement between the card and processing station.

Wood et al. teaches such limitations (re claim 16).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Wood et al. to effect movement for processing of the card medium.

Re claim 24, the limitations have been discussed above.

8. Claims 21, 24, 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis/Chedister, as discussed above, in view of Wood et al., as discussed above.

The teachings of Davis/Chedister have been discussed above, include a magnetic layer and a clear protective coating, as known in the art, to protect the card from wear. It is obvious to

the Examiner that one would have been motivated to have a smooth, non magnetic friction reducing layer to effect ease of use of the card, looks, and transport.

Davis et al./Chedister are silent to the magnetically saturable, magnetically permeable layer.

Wood et al. teaches such limitations as discussed above.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al./Chedister with those of Wood et al.

One would have been motivated to do this to protect the card and effect signal transfers.

Re claim 24, the limitations have been discussed above.

Re claims 27 and 30, Davis et al. is silent to the protecting coating interfacing with and being responsive to a data processing station when the card and station are moved relative to each other to position the substrate near the station to enable data flow.

Wood et al. teaches such limitations (FIG. 1 and as discussed above).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis with those of Wood et al.

One would have been motivated to do this in order effect data transfer, as conventional in the art.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis, as discussed above, in view of Changnon (US 3,732,640).

The teachings of Davis et al. have been discussed above.

Davis et al. is silent to protective coatings on both sides of the card.

Changnon teaches such limitations (see claim 11).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Changnon.

One would have been motivated to do this to protect both sides of a card.

10. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al., as discussed above, in view of Rose (US re38,290).

The teachings of Davis have been discussed above.

Davis et al. is silent to the card moving relative to the processing station.

Rose teaches such limitations (col 2, lines 22+).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Rose.

One would have been motivated to do this in order to speedily process the card. The Examiner notes that both moving the card/moving the reader are well known in the art to process card information.

11. Claims 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al., as discussed above, in view of Mizoguchi et al. (US 5,689,105).

The teachings of Davis et al. have been discussed above.

Davis et al. is silent to the processing station moving relative to the card/substrate.

Mizoguchi et al. teaches such limitations (abstract).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Mizoguchi et al.

One would have been motivated to do this to accurately process the card (process with conformity).

12. Claims 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al./Liu as discussed above, in view of Rose, as discussed above.

The teachings of Davis et al./Liu have been discussed above.

Davis et al./Liu is silent to the card rotating proximate a data processing station.

Rose teaches such limitations as discussed above.

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to rotate the card (instead of the read head), and hence combine the teachings of Davis et al./Liu with those of Rose.

One would have been motivated to do this in order to process the card by such systems, such as those that store data in circular arcs (disc forms).

13. Claims 36 and 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. as discussed above, in view of Opheij et al. (US 4,868,373).

The teachings of Davis have been discussed above.

Davis et al. silent to a rotatably mounted storage device that is moved relative to a data processing station.

Opheij et al. teaches such limitations (FIG. 1).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Opheij et al.

One would have been motivated to do this to store more data (disc form). The Examiner additionally notes that Opheij et al. optionally teaches a magnetic stripe as well. Furthermore, the Examiner notes that it is envisioned that it would have been obvious to one of ordinary skill

in the art that the rotatable storage could be optical/magnetic based on system constraints, storage issues, security, rewritability, etc.

14. Claims 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. as discussed above, in view of Nishiyama et al. (US 5,721,942).

The teachings of Davis et al. have been discussed above.

Davis et al. is silent to the claim density range.

Nishiyama teaches a card with the claimed range (see claim 4).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Davis et al. with those of Nishiyama et al.

One would have been motivated to do this for increased storage capacity.

15. Claims 1, 10, and 38-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opheij et al., as discussed above, in view of Ahlert (US 5,227,212).

The teachings of Opheij et al. have been discussed above.

Opheij et al. are silent to magnetic data storage.

Ahlert teaches a magnetic disk (col 1, lines 13-15, col 5, lines 1-10).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Opheij et al. with those of Ahlert.

One would have been motivate to do this to have a magnetic recording means, well known and conventional in the art, and more easily rewritable.

Re claim 40, Ahlert teaches a transducer (col 4, lines 61).

Re claim 41 and 44, a thin film inductive head is taught by Ahlert (col 2, liens 49-50).

Re claims 42-43, Ahlert (FIG. 8) is interpreted to show the data storage and transducer both move when reading.

Re claims 45-46, as the claims do not define a positional relationship between the substrate and the processing station, the Examiner notes that it known that magnetic field orientations are present in magnetic media (discs, hard drives, etc) so that data can be stored and bits distinguished. Accordingly, based on the positional relationship between the card and substrate and processing station, the magnetic field orientation can be perpendicular or parallel.

Re claim 38, the Examiner notes that though silent to the density of the disc, the Examiner notes that such densities are well known and conventional in the art for storage capacity of magnetic mediums such as disks/hard disks.

16. Claims 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opheij et al./Ahlert, as discussed above, in view of Meeks (US 6,268,919).

The teachings of Opheij et al./Meeks have been discussed above.

Opheij et al./Ahlert are silent to plating.

Meeks shows plating (col 1, lines 43-50).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Opheij/Ahlert with those of Meeks.

One would have been motivated to do this since plating is well known and conventional for disks/disks drives to lead to desirable properties for magnetic surfaces.

17. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Opheij et al./Ahlert, as discussed above, in view of Foley et al. (US 4,518,627).

The teachings of Opheij et al./Ahlert have been discussed above.

Opheij et al./Ahlert is silent to web coating.

Foley et al. teaches such limitations (col 3,lines 15-35, abstract).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to combine the teachings of Opheij/Ahlert with those of Foley et al.

One would have been motivated to do this in order to produce a durable magnetic medium.

Additional Remarks

18. It appears to the Examiner that the claims maybe direct to different inventions, such as a magnetic stripe card and a hard disk/disk storage medium, as the claims appear to have limitations to different structures. The Examiner requests clarification in order to avoid unnecessary prosecution and undue burden that could result in a possible restriction.

Conclusion

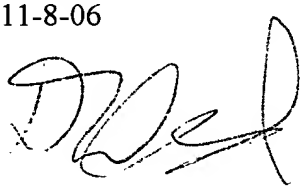
19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See attached PTO-892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel I. Walsh whose telephone number is (571) 272-2409. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel I Walsh
Examiner
Art Unit 2876
11-8-06



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